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PCT/NZ2005/000016

## CERTIFICATE

This certificate is issued in support of an application for Patent registration in a country outside New Zealand pursuant to the Patents Act 1953 and the Regulations thereunder.

I hereby certify that annexed is a true copy of the Provisional Specification as filed on 13 February 2004 with an application for Letters Patent number 531166 made by KOHLER NEW ZEALAND LIMITED.

Dated 3 March 2005.



Neville Harris  
Commissioner of Patents, Trade Marks and Designs



531166

NEW ZEALAND  
PATENTS ACT, 1953

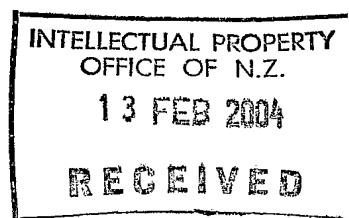
**PROVISIONAL SPECIFICATION**

A SHOWER BASE

We, KOHLER NEW ZEALAND LIMITED, a New Zealand company, of 133 Diana Drive, Glenfield, Auckland, New Zealand, do hereby declare this invention to be described in the following statement:

133707-1

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## FIELD OF INVENTION

The invention relates to a preformed shower base for a shower enclosure.

## 5 BACKGROUND OF THE INVENTION

A shower enclosure consists for example of a door and return panel or panels which are fitted in the corner of a bathroom or other area to form the shower enclosure together with the existing corner walls of the room, which are lined with an appropriate waterproof lining. Typically before installing the door and return panel(s), a shower base is installed which provides a floor to the shower enclosure on which a person stands when using the shower. The shower base includes a waste aperture in which is provided a waste fitting connected to plumbing which carries away waste water during use of the shower.

15 The shower base is formed so that the upper surface of the shower base which provides the floor of the shower falls towards the waste outlet. Commonly the shower base is thermoformed to shape from sheet thermoplastic material. The exposed upper surface of the thermoformed material of the shower base may constitute the finished surface of the floor of the shower. Alternatively, the shower base may be fabricated from 20 fibreglass or stainless steel for example.

25 Alternatively again the floor of the shower may be tiled, with ceramic or clay tiles. The tiles must be solidly supported or they may crack or become dislodged. The tiles may be fixed directly on the floor of the room or area in which a shower enclosure is being installed, on for example a concrete floor surface which has been pre-formed with a fall to a waste outlet. It is also known to install a pre-formed shower base intended to be tiled, on the floor which provides a stable surface with a fall or falls to a waste outlet for 30 solidly supporting the tiles.

## SUMMARY OF INVENTION

It is an object of the invention to provide an improved or at least alternative form of shower base which is particularly suitable for use in installing a shower enclosure  
5 intended to have a tiled floor.

In broad terms in one aspect the invention comprises a shower base including a floor which falls towards a side of the shower base, a waste outlet aperture adjacent said side of the shower base, and a drain channel along at least a part of said side of the shower  
10 base which drains towards said waste outlet.

In broad terms in another aspect the invention comprises a shower enclosure including a shower base, a waste outlet in the shower base to one side of the shower base, and a drain channel around a front edge portion of the enclosure at least beneath a door to the  
15 shower enclosure, and arranged to drain towards the waste outlet.

In a preferred form the shower base is intended for use with a shower enclosure which comprises a door and one or more return panels, and the drain channel is provided to extend along or adjacent the foot of the return panel(s) as well as beneath or at the foot  
20 of the door of the shower enclosure, to the waste outlet which is provided on one side which is preferably the front of the shower base. The shower base may be of any shape. Alternatively however the shower base may be intended to be used with a shower cubicle in which the enclosure defining the cubicle is provided by solid walls on three sides of the cubicle and in which a door without a return panel (or optionally with a  
25 short return panel) extends across the front of the cubicle to form the finished enclosure. Alternatively again, the shower base may be designed to be used in a freestanding shower enclosure.

Many pre-formed shower bases have a central waste aperture. In for example a square shower base with a central waste aperture, in order to provide a fall from each side of  
30 the shower base to the waste aperture, the floor surface of the shower must be composed

of surfaces in four planes, which intersect along lines from each corner of the shower base to the waste outlet. Where the shower base is to be tiled, this requires cutting of many tiles where they intersect along each such line between adjacent planes in the floor surface of the shower base. This makes the tiling of the shower base relatively time consuming. In a preferred form, in the shower base of the invention which has a waste outlet to one side of the shower base combined with an associated drain channel, the floor surface of the shower base may substantially planar, ie a single plane, which requires less cutting of tiles at any change of plane in the floor surface of the shower base, when tiling the shower base.

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#### **BRIEF DESCRIPTION OF THE DRAWINGS**

The invention is further described with reference to the accompanying drawings which show a preferred form shower base and enclosure of the invention, by way of example and without intending to be limiting. In the drawings:

15      Figure 1 is a perspective view of a shower enclosure including the preferred form shower base, from the front;

Figure 2 is a larger view of the shower base from the front;

20      Figure 3 is a view similar to Figure 2 above with a drain channel cover removed;

Figure 4 is a view of the shower base from the front separate from the enclosure (for example before installation of the shower base) also with the drain cover plate and other components removed; and

25      Figure 5 is a cross-section schematic view of a part of the shower base and enclosure in particular through the waste outlet, along line I-I of Figure 2.

#### **DETAILED DESCRIPTION OF PREFERRED FORM**

The preferred form shower base shown in the drawings is intended for a shower 30 enclosure formed in the corner of a room and having a curved door 1 with return panels 2 on either side as shown. The door is supported from the return panel by hinges 3 on

one side and includes a handle 4. However, shower bases of the invention may be square in shape for use in installing a square enclosure, or of any other shape to match the shape of the shower enclosure as desired.

5 Referring to Figure 2 the shower base 5 comprises a floor 6 which is a planar floor and falls or slopes from a high point at the rear corner 7 of the shower base, to a waste outlet 8 provided at the front of the shower base. In the preferred form the waste outlet aperture 8 is recessed into the shower base so as to be at a lower level than the floor surface 6 of the shower base, and cover plate 9 is provided which sits on ledges 10 formed in the shower base adjacent the waste aperture 8 as shown, preferably so that the 10 cover plate is freely removable for cleaning.Ledge 10 on upstand 18 also supports the cover plate 9.

15 Drain channel 11 extends around the front of the shower base, beneath or at the foot of the door and also preferably along the foot of the return panels as shown. Figure 4 shows the drain channel 11 most clearly, which is integrally formed in the shower base. After installation and in use of the shower, the fall of the floor surface of the shower base which may be tiled or may be formed as the finished end surface of the shower 20 base, is towards the curved front of the shower enclosure bounded by the door and return panels, and water will flow into the drain channel 11 and to the waste outlet 8.

25 Typically the shower base whether it is intended to be tiled or otherwise will be formed as a single thermoformed or moulded product and is preferably formed to incorporate moulded cut outs 17 down which water falling towards either side of the front of the shower enclosure will fall, to the drain channel 11.

30 Preferably for aesthetic reasons a cover plate 12 is provided over the drain channel 11 at least beneath the door of the enclosure, which covers the drain while at the same time allowing water flowing towards the drain onto the cover plate to drain through the cover plate which is apertured, in the preferred form with slots 16 as shown. The drain channel 11 may extend beyond simply the door, and also along the foot of the one or

more return panels. The drain channel in front of the return panels may be open but in the preferred form is also covered as shown, by short cover plates 17. By comparing Figures 2 and 3 it can be seen that rail 18 along the bottom of each of the return panels is fixed within the drain channel 11 on either side of the shower, and cover 17 which is removable for cleaning, fits in place to conceal the drain channel. Moulded plastic component 19 finishes the otherwise exposed end of the rail 17 (see Figure 3) on either side. The cover plates 12 and 18 over the drain channel 11 may be formed as extrusions, or alternatively as moulded components, preferably with a concave upper surface 15 as shown (see Figure 5). In use any water leaking between the return panel(s) and door, or around the edges of the return panels when these are not sealed against a wall for example, will be caught on the cover plates 18 and 12, and carried to the drain channel 11.

Cover plate 9 over the waste outlet 8 may also include drain apertures through the cover plate as shown, or alternatively again a removable cover plate may be dispensed with and a cover plate fixed permanently in place once the shower base has been installed, so that for example when the shower base is tiled the tiles may extend over the cover plate 9 or equivalent so that the waste outlet is not visually apparent. In most cases, however, it will be desirable to provide a removable cover plate 9 to allow access to the waste outlet periodically for cleaning.

As indicated above, with the shower base of the invention which has a waste outlet to one side of the shower base combined with an associated drain channel, the floor surface of the shower base may substantially planar, ie a single plane, which when the shower base is to be tiled requires less cutting of tiles at any change of plane in the floor surface of the shower base.

While in the preferred form described the shower base floor surface is (single) planar, alternatively the shower base may be formed so that the floor surface of the shower base comprises two intersecting planes, which intersect along a line bisecting the shower base from the rear corner 7 of the shower base to the waste outlet 8 for example, to

provide a fall for water at either rear side of the shower base directly towards the waste outlet 8. This is less preferred but where the shower base is to be tiled may still reduce tiling work relative to tiling a shower base with a central waste.

- 5 In the preferred form described the waste outlet 8 is provided centrally at the front of the shower base but an alternative form the waste outlet might be provided at the left or right front corners of the shower base, in which case the fall of the drain channel 11 would be towards the waste outlet at one side rather than from either side of the front closure towards a central waste outlet.

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The foregoing describes the invention including a preferred form thereof. Alterations and modifications as well be obvious those skilled in the art are intended to be incorporated in the scope hereof.

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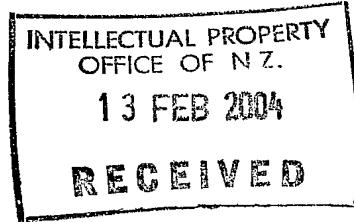


FIGURE 1

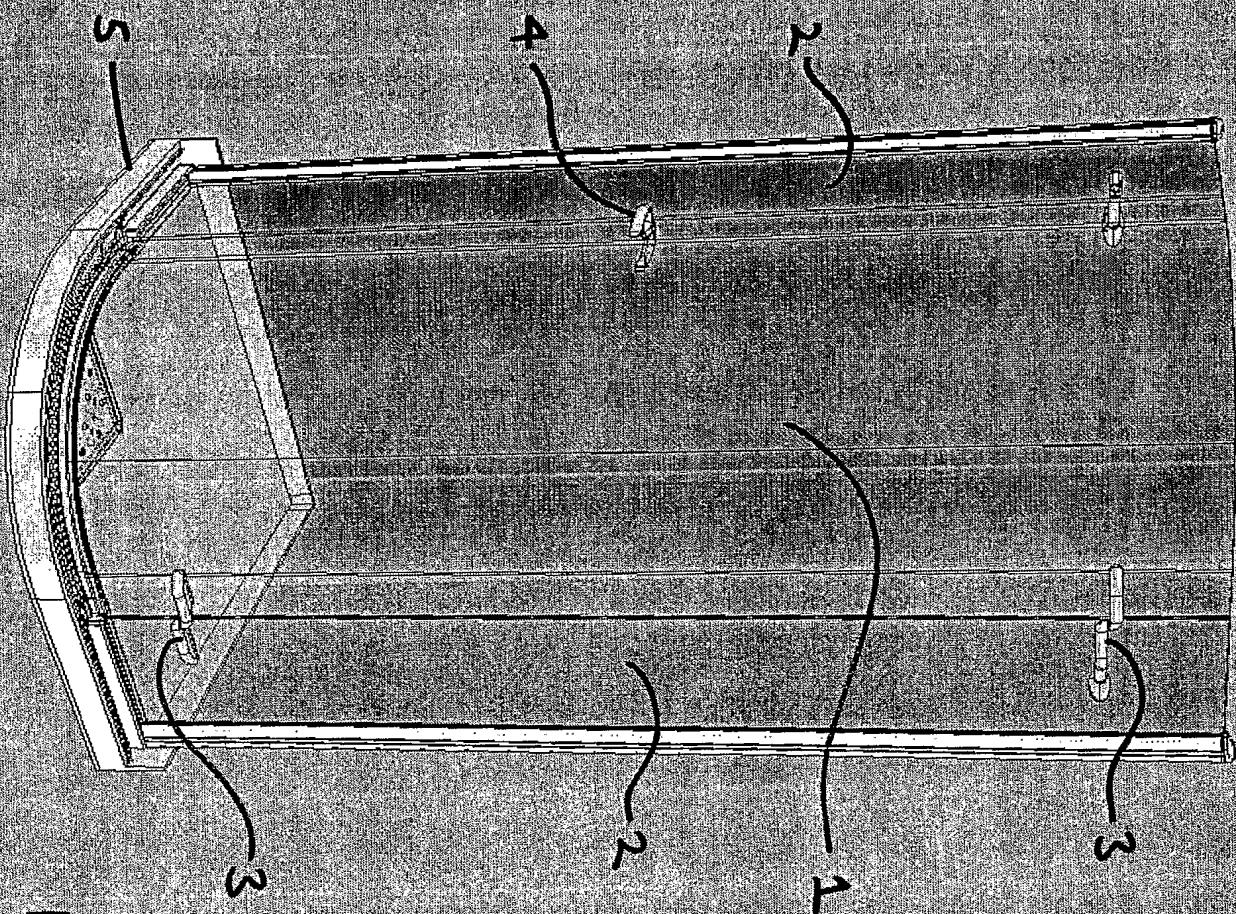
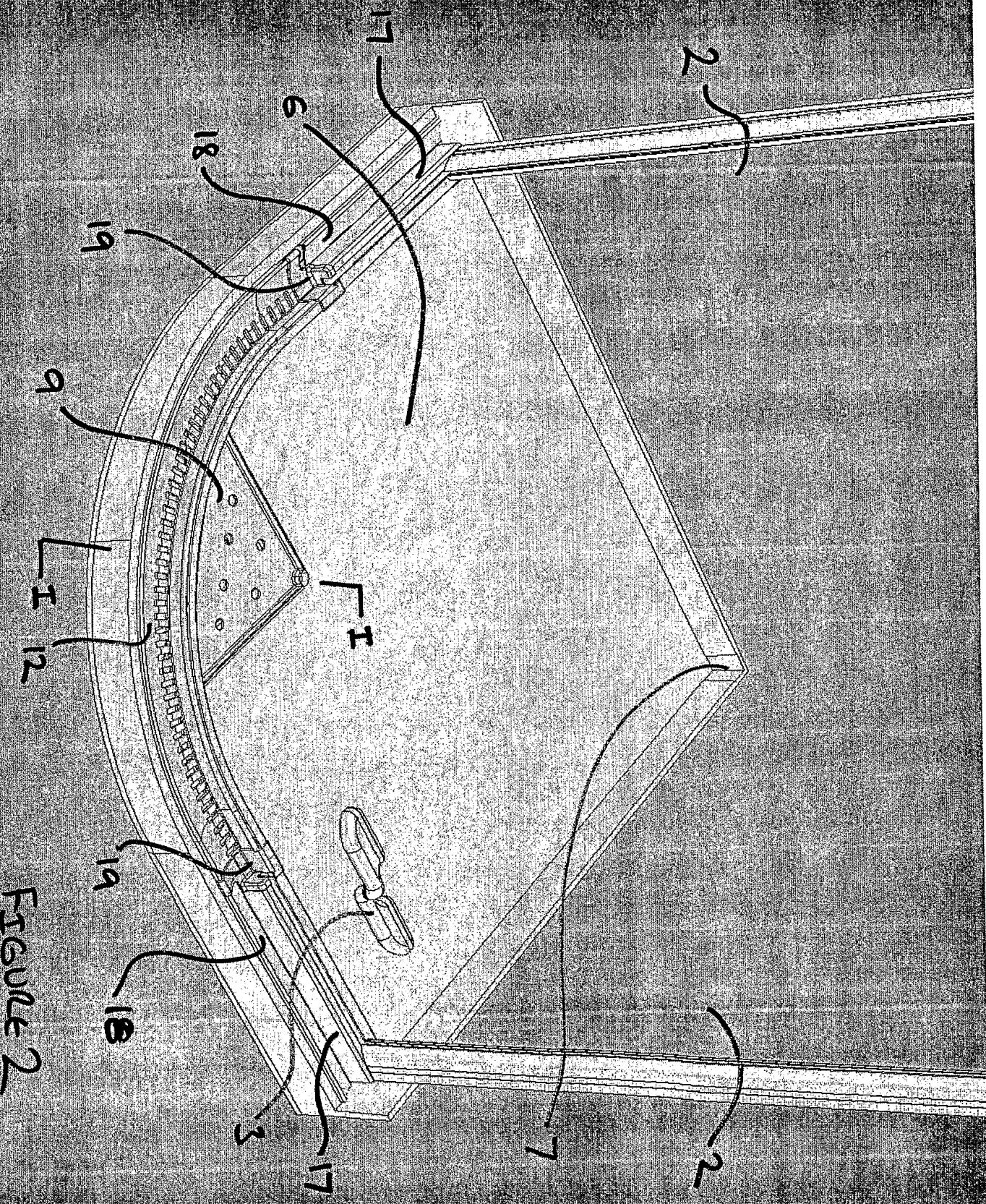


FIGURE 2



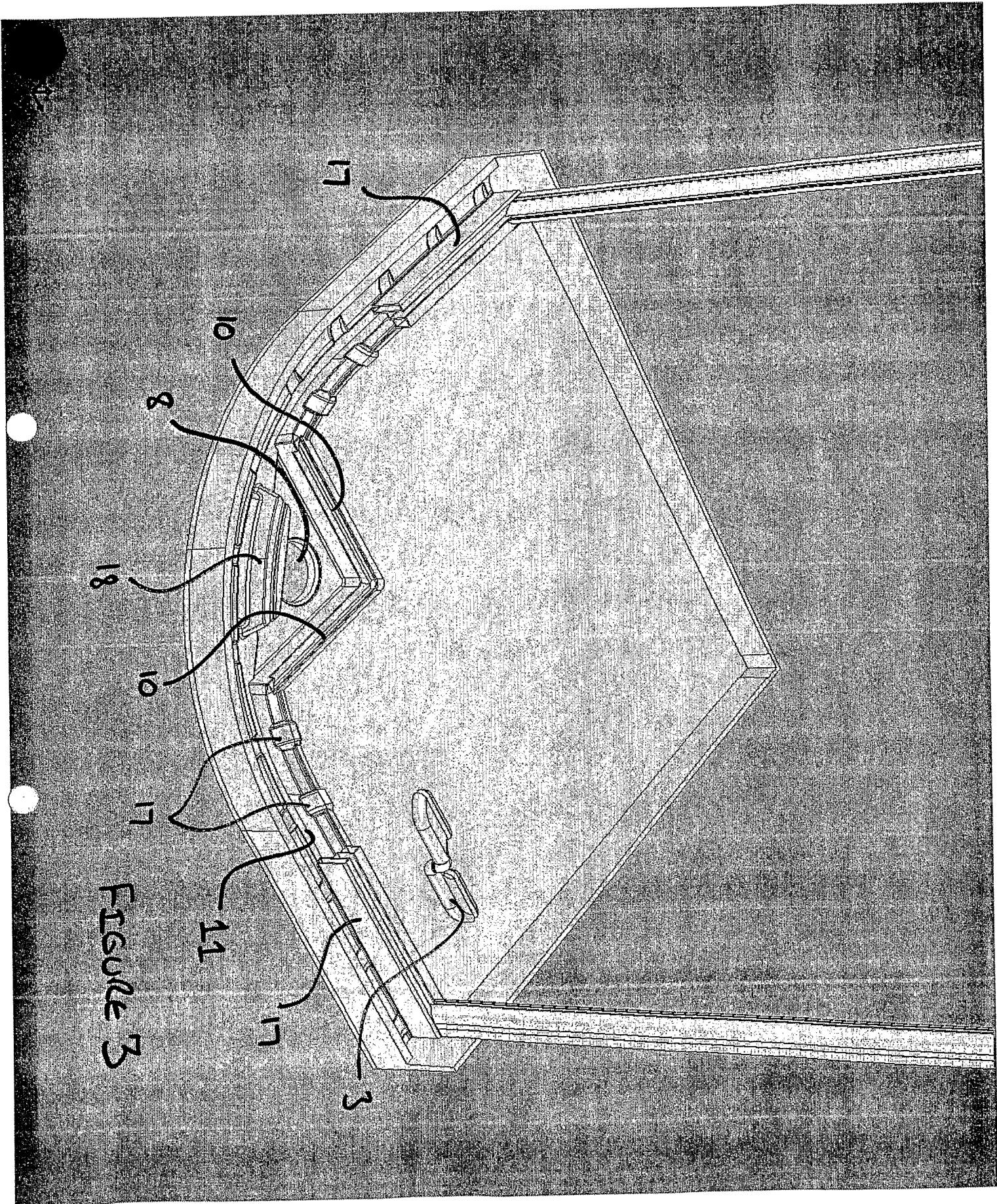


FIGURE 3

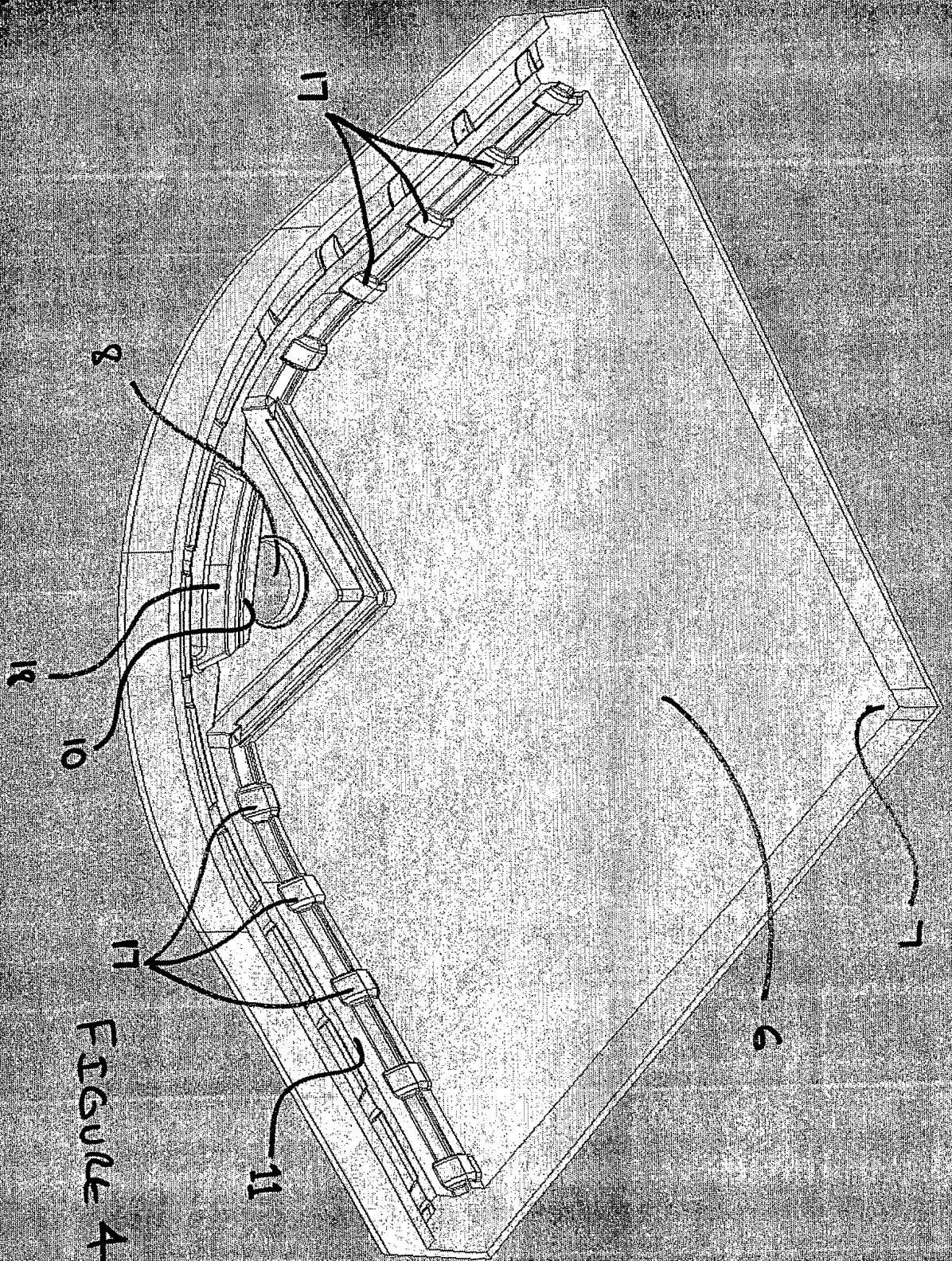
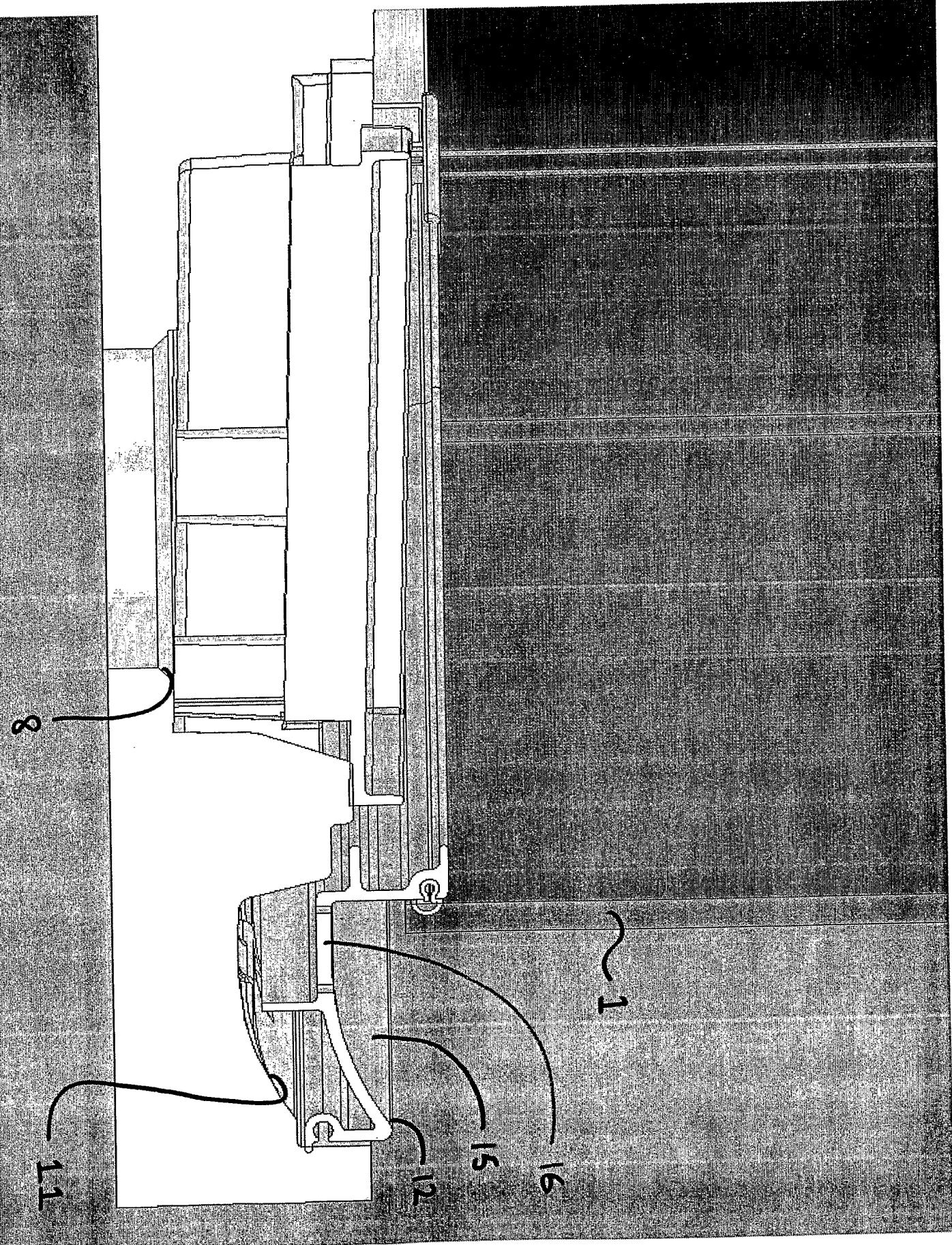


FIGURE 4



FIGURES

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